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ICs drive dozen LEDs

Texas Instruments' new high-efficiency, dual-output DC/DC boost converters that can manage two sets of six white LEDs - all from a single chip plus inductor.

With an input voltage of 3-6 V they deliver up to 0.7 A output current so they suit OLED sub-displays and white LED backlighting for the LCD main display in today's clamshell phones.

TI's TPS61140 device allows a portable electronics designer to program each individual voltage and current level through external resistors. For additional flexibility, the designer can use each output's dedicated selection pin to turn them on separately or simultaneously.

The TPS61150 high-frequency boost converter with two regulated current outputs drives white LEDs in LCD backlights for the sub and main displays in clamshell phones. As with the TPS61140, this device's output current can be reduced by implementing a PWM signal on the select pins or an analog voltage on the ISET pin, resulting in PWM dimming of the white LEDs. The TPS61150 regulator's 1.2-MHz fixed switching frequency reduces output ripple and avoids audible noises associated with PFM control. The device's two outputs can also drive display and keypad backlights, together driving up to 12 white LEDs in one large display.

The TPS61140 and TPS61150 eliminate the need for any external active power components, while maintaining a high degree of efficiency and design flexibility. The devices incorporate a power MOSFET and power diode. In addition, the high switching frequency reduces the size requirements of the external inductor and capacitor.

For more details, visit:
www.power.ti.com

BRILASI yields laser bar record

OSRAM Opto Semiconductors says its laser bars have set a new world efficiency record of 808 nm at an optical output of 120 W.

This latest breakthrough was achieved in concert with laser specialists DILAS Diodenlaser GmbH. The two companies have combined their considerable technology expertise as part of the BRILASI (Brilliant High-Power Laser Diodes for Industrial Applications) research project. OSRAM and DILAS have a history of combined efforts in the field of high-power diode lasers and have developed close cooperation in the development of semiconductor chip material and structures.

The BRILASI project was initiated by the Association of German Engineers, an agency of the German Ministry for Education and Research, to develop highly efficient and reliable diode lasers for industrial applications. OSRAM Opto Semiconductors serves as the project's coordinator. Additional members of the project team include laser system specialists and representatives from research institutes.

These high-performance laser bars are prototypes for a new generation of diode lasers and are designed primarily to pump solid-state lasers in applications such as automobile industry welding. New, more powerful lasers enable increased system output with the same service life or smaller, more reliable systems with the same output. Applications previously reserved exclusively for solid-state lasers (such as surface processing) are also now possible with diode lasers.

"With output of 120 W, these new lasers will double the value achieved for current 808 nm wavelength solutions," said Ellen Sizemore, North American director, LED and IR Products Group, OSRAM Opto Semiconductors. "This ten-percent efficiency increase is a direct result of the combined efforts of OSRAM's expertise in chip fabrication and DILAS' skills in assembly and cooling systems."

For more details, visit:
www.osram-os.com

Compact InGaAs SWIR camera on show

Sensors Unlimited, Goodrich Corp., has launched a new short-wave infrared (SWIR) camera.

The SU320KTX-1.7 RT, the first camera in the company's new KT Camera family, is on show at the SPIE Defense and Security Symposium, April 18-20 in Orlando, FL.

Ultra-compact (under 3.8 cu in) and lightweight (under 90g), the camera was originally developed for the US Army's Soldier Mobility and Rifle Targeting System. For the first time, it is now available for industrial and commercial OEM use.

Based on indium gallium arsenide (InGaAs), it was designed for low-light conditions and day/night operation. It provides:

- Wide dynamic range imaging in partial starlight to direct sun illumination.

- Clear, real-time video images, ideal for passive surveillance and for use with lasers.

- Highest sensitivity available in the 900-1700 nm range with a 320 x 240 pixel format on a 40-micron pitch focal plane array.

A low-power (less than 1.6W), all solid-state SWIR imager, it operates at room temperature and features onboard non-uniformity corrections, auto gain and enhanced display algorithms, making it perfect for integrating into surveillance, robotic or handheld systems.

The SU320KTX-1.7 RT is available in either the compact OEM module at <3.8 cu in or enclosed in a robust housing at <10.1 cu in, both camera packages include a C-mount lens adapter and lens.

Applications include all low-light-level imaging tasks, such as covert surveillance, imaging spectroscopy, astronomy, emission microscopy, machine vision and more. The KTX is ideal for easy integration into unmanned aerial and ground vehicles, robotic, handheld and portable systems.

For more details, visit:
www.goodrich.com

Rally LEDs

In the Desert Logic rally in South Tunisia, three KTM 'enduro motorcycles' were equipped with LED lighting systems.

The prototypes were specially developed by CML Innovative Technologies to test out the system.

The LED lighting systems had to withstand harsh environmental conditions with wide temperature excursions, abrasive sand as well as constant shocks and vibration.

Each bike had a high power LED brake light for better safety, white LED map illumination and a pair of flashing HB-LEDs at the front and back.

For more details, visit:
www.chml.com